

BAE SYSTEMS 2003 E3 Report

Table of Contents

<u>BAE SYSTEMS Manassas Mission</u>	3
<u>Introduction</u>	3
<u>Manassas Environmental, Safety and Health Policy</u>	4
<u>Actual or perceived impact on the environment</u>	4
<u>2003 - Objectives and Targets</u>	4
<u>Regulatory compliance</u>	5
<u>Materials management - % waste recycle</u>	5
<u>Pollution Prevention program</u>	5
<u>Identification of legal requirements</u>	6
<u>Reporting to management</u>	6
<u>Noncompliance and how handled</u>	6
<u>Voluntary self assessments</u>	6
<u>Public outreach</u>	7
<u>2004 - Objectives and Targets</u>	7

BAE SYSTEMS Manassas Mission

The mission of BAE SYSTEMS Manassas is to design, develop and manufacture space qualified computer processors and sub-systems, digital communications systems and radiation-hardened components.

Introduction

During 2003, BAE SYSTEMS continued upgrading its semiconductor wafer manufacturing line to meet future business requirements. The upgrade of the line involved removing most of the wet chemical using tools, installing new gas based tools, and consolidating the new wet chemical tools into a single area. Similar to the activities completed in 2002, Environmental, Safety and Health (ESH) personnel were directly involved in tool removal and installation. This has decreased the risk of improper disposal of waste and ensured proper tool connections to appropriate drains and exhaust systems.

The new operation for the manufacturing area is expected to begin during 2004.

Manassas Environmental, Safety and Health Policy

"BAE SYSTEMS Information and Electronic Warfare Systems (IEWS) in Manassas, Virginia will strive to conduct its operations in accordance with corporate policy, and meet or exceed federal, state, and local laws and regulations. In that effort we shall attempt to:

- **Maximize efficiency and reduce pollution, safety and health concerns within all activities, products and services**
- **Establish an understanding and improve upon the environmental, safety and health consequences of our operations and technologies**
- **Maximize material reuse in the form of recycling and efficient use of our resources**
- **Improve upon internal and external environmental, safety and health communication**
- **Maximize contractor and subcontractor environmental, safety and health awareness**
- **Participate with the surrounding community on environmental, safety and health activities**
- **Participate in the development of local environmental, safety and health laws and regulations**
- **Maintain the safest work place, products and services possible**

We shall use the knowledge gained to strive to continually improve our environmental, safety and health programs as documented within the IEWS Manassas Site Improvement Plan."

Actual or perceived impact on the environment

Each year, all activities are reviewed for potential environmental impact. The review is summarized in a document that is posted on the BAE SYSTEMS Manassas Web system. The purpose of the review is to ensure all current and planned activities conform to environmental regulations and the impacts of the operations of those processes are minimized to the maximum extent possible. There were no major environmental issues identified. For the year 2003, the following minor potential issues were identified as possible operational impacts.

- a) There is a risk of a permit violation caused by the discharge of concentrated acid solution down the industrial drain from concentrated scrubber acid. This would occur with the running of a scrubber and not neutralizing the solution prior to discharge to the drain system.
- b) There were identified two instances in which permit violations could occur by the discharge of solvents down the acid drain system. Since the BAE SYSTEMS treatment system is designed to handle only acid wastes, there would be no abating of this waste, except for the normal system dilution. The incident could result in a permit violation.
- c) There is a risk of continued air quality degradation with contributions from commuting to work by employees.

2003 - Objectives and Targets

After the development of the potential impacts, a variety of ESH objectives and targets were established to either directly address the impacts or to better define these problems for possible future actions. Item B is not specifically addressed because the manufacturing line is currently being retooled. When the line

reactivates, the plan is to review usage vs previous usage and to provide this information to BAE SYSTEMS management. The need for actions will be addressed at that time.

Item	Objective	Target	Status
A and B	<p>BAE SYSTEMS initiate a publicity campaign on the significance of its industrial drain system to ensure awareness of the risk of inappropriate use of drains. Each employee should be aware of the proper disposal techniques and should be made aware of the impact if a chemical is not sent down drains specifically marked for that use. Recommend all drains not specifically attached to a tool be verified as having clear drain type labels.</p> <p><u>ACTIONS TAKEN</u> All personnel received training as part of annual chemical, environmental, right to know training. All drains were inspected and verified for correct labeling. One drain was found to improperly labeled. This was corrected.</p>	12/31/2003	<p>Complete</p> <p>12/31/2003</p>
C	<p>Recommend all chemical using departments include additional training on the injury paths of various chemicals.</p> <p><u>ACTIONS TAKEN</u> All personnel received training as part of annual chemical, environmental, right to know training.</p>	12/31/2003	<p>Complete</p> <p>12/31/2003</p>
D	<p>BAE SYSTEMS initiate a publicity campaign identifying the types of energy systems in use and identifying the cost impact to the organization to encourage conservation whenever feasible.</p> <p><u>ACTIONS TAKEN</u> Energy monitored as part of cost of doing business. In addition, Lockheed Martin – Site facilities host has initiated an energy conservation program. BAE SYSTEMS will participate as part of this effort</p>	On going	Underway and continuing
	<p>Regulatory compliance</p> <p><u>ACTIONS TAKEN</u> None required. Compliance at 100%</p>	100%	12/31/2003
General	Materials management - % waste recycle	55%	Actual achieved 56%.

Pollution Prevention program

As part of its ongoing operations, BAE SYSTEMS operates its chemical use through just in time chemical purchase and delivery. As a result, when the manufacturing line was shut down for upgrade, the chemical supply on hand was not very large. Even with the relatively small quantity, efforts were made to minimize the chemicals declared a waste and disposed of as a hazardous waste. During 2003 no chemicals were declared a waste because of the line shut down and ultimate restart.

During 2003 the scrap metal generated from the process line renovation was collected and shipped to metal recyclers. To enhance metal recycle, the site has begun to use a special sized and identified

collection trailer. All contractors operating on site have been briefed on the new systems. Already during 2004 the quantity of scrap metal loaded in general trash has been reduced.

Normal annual recycle efforts for solid waste and waste water continued. The following were the recycle percentages for solid waste and for waste water used as makeup to the site cooling towers.

Solid Waste Recycle:	56%
Wastewater reuse for cooling tower feed:	31%

Identification of legal requirements

BAE SYSTEMS Manassas is a tenant of Lockheed Martin Manassas. The majority of the environmental regulations associated with the location remain the province of Lockheed Martin which provides internal guidelines on allowable activities of all tenants. BAE SYSTEMS does have a pretreatment permit from the Upper Occoquan Sewage Authority (UOSA) for the pH adjustment of dilute industrial waste water prior to discharge to the sanitary waste system. In addition, BAE SYSTEMS is a generator of hazardous waste and has a 90-day storage program for its waste.

UOSA Permit #	MAN003
EPA ID #	VAR 000 500 637

Methods used for tracking

Lockheed Martin, as the landlord has been awarded a contract to maintain a review of all Federal and State regulations as they may apply to BAE SYSTEMS. To perform this requirement, Lockheed Martin subscribes to an EPA electronic subscription service. In addition, Lockheed Martin maintains a contract, through their corporate headquarters with ENFlex, for complete and current Federal regulations. Virginia Commonwealth regulations are examined periodically using information from the VA DEQ web page.

Reporting to management

BAE SYSTEMS reports to management each month on the status of all business issues, to include environmental, safety and health. The report is part of a monthly status review to the local site executives. The BAE SYSTEMS Mission Success and Product Assurance organization presents these discussions to its management team and maintains copies of all such presentations along with recommendations.

Noncompliance and how handled

During 2003, there were no noncompliances.

Voluntary self assessments

During 2003, BAE SYSTEMS was audited internally five times and received a 3rd party audit. There were no findings as part of the 3rd party review.

Internal audits identified problems associated with documentation of actions. All such deficiencies were corrected.

Public outreach

BAE SYSTEMS employee, Steve Danziger, is the vice chairman of the Prince William Soil and Water Conservation District. BAE SYSTEMS allows flexible schedule so that Steve can attend the meetings and activities. The Prince William Soil and Water Conservation District Mission "...provide leadership in the conservation of soil, water, and related resources to all Prince William County citizens, through technical assistance, information, and education." Major District operations include technical assistance for agricultural landowners and youth education. Technical assistance comes in the form of developing Soil and Water Conservation Plans and helping landowners implement these plans through a variety of state conservation programs, including the Virginia Agricultural Best Management Practices (BMP) Cost-share Program. The District also refers landowners to their agencies, including the Virginia departments of Forestry and Game and Inland Fisheries, and the USDA National Resource Conservation Service for questions related to these agencies' areas of expertise. Youth education reaches thousands of Prince William County and City of Manassas students through programs for elementary and secondary students, as well as urban and rural residents. The District is active in public relations, in part through its Quarterly and Teacher's Newsletters." Just recently, Steve attended the local Arbor Day celebration. For more information, see <http://www.pswcd.org/>

2004 - Objectives and Targets

A review of site aspects has produced the following objectives and targets for 2004.

- a. BAE SYSTEMS initiate flow studies of the concentrated acid drains and develop a project during 2004 to allow the complete segregation of the two acid collection systems. As part of this effort, the concentrated acid system should be sized to handle the concentrated acid flow.
- b. BAE SYSTEMS initiate a project to upgrade the industrial waste neutralization system (IWNS) to expand that systems capability to more readily treat the dilute acid waste received from the manufacturing line. This upgrade should work to improve the efficiency of the neutralization process and to allow faster discharge of neutralized wastewater.

These have a target date of the end of the year and will depend on the availability of resources.